ABSTRACT
        The paper describes the use of writing as an
instructional strategy to integrate several contemporary issues all
of which focus on the teaching of human development theories. Issues
include postmodern thought, higher level thinking process, conceptual
conflict, and arousal, motivation, and integrating the writing
process into the psychology curriculum. Each issue is briefly
discussed and the literature reviewed. The instructional methodology
involves use of a dyadic technique and the writing of nine short
essays throughout the semester. Students write essay questions and
model answers based on assigned readings and text material. Students
also write answers to each others' questions, then discuss answers
both in dyads or triads and as a whole class. Finally, students'
questions and answers are evaluated both by peers and the instructor.
Students who received this instructional approach generally felt it
was highly beneficial to their learning of both the content of the
class and of each other's perceptions of that content. Results
support efforts to expand writing activities across the college
curriculum. Samples of questions and answers and a form for writing
and rating questions are attached. Contains 55 references. (DB)

A Cooperative Pedagogical Strategy For Teaching

Developmental Theories Through Writing:

Dyadic Confrontations.

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Abstract

This paper integrates several contemporary issues all of which focus on the teaching of human development theories. The most important issues include postmodern thought, higher level thinking processes, conceptual conflict and arousal, motivation, and integrating the writing process into the psychology curriculum. Each issue is briefly discussed and then a pedagogy designed to integrate them into a strategy for teaching human development theories is presented. Adaptation and application of relativistic and constructionist viewpoints are used to introduce conceptual conflict into the teaching of these classes. An additional concern has been to challenge and foster higher level cognitive processes by encouraging the integration, synthesis, evaluation and analysis of knowledge. The strategy describes a solution using the medium of writing, not only the traditional answers to essay questions, but also the writing of the very questions themselves.

A Cooperative Pedagogical Strategy For Teaching Developmental
Theories Through Writing: Dyadic Confrontation.

Rationale

This paper integrates several contemporary issues which are
focused on the teaching of human developmental theories. The
most important issues include 1) postmodern thought, 2) higher
level thinking processes, 3) introducing conceptual conflict and
arousal, 4) motivation, and 5) integrating writing into the
psychology curriculum. Each of these issues is briefly discussed
and then integrated into a solution for teaching human
development theories.

 Postmodernism. Foremost among these issues is the idea that
we exist in a time which has been variously described as
"postmodern," (Feyerabend, 1975), "poststructuralist," and
"postpositivist" (Goodman, 1983). Increasingly these three terms
are surfacing in a variety of disciplines ranging from the "fine
arts," (Burnham, 1971), "philosophy" (Goodman, 1983), to
"developmental psychology" (Brofenbrenner et al., 1986; Gardner,
1985) and Educational Research (Phillips, 1983). Hare-Mustin and
Mareck's (1988) article is one of the most recent and thorough
discussions about "postmodernism." They describe two postmodern
philosophical   schools   of   thought,   Constructivism   and
Deconstructionism, as having the following attributes:

> 1.   They challenge the idea of a single meaning of
> reality.

> 2.   They tend to accept randomness, incoherence,
> indeterminancy and paradox.

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3.   They are skeptical about the positivist tradition in science and essentialist theories.

4.   They assert that meanings are historically situated and constructed and reconstructed through the medium of language.

This might even been seen as a common sign of the times we live in, one which is uniquely interdisciplinary.   One of the more interesting notions associated with these conceptions is the idea that there may be what Bruner (Bruner & Feldman, 1986) describe as "plural realities."   I refer here to the eternal problem of determining whether there is an objective reality out there to be discovered (this is sometimes associated with the "realist" and "instrumentalists" schools of thought), or a subjective reality which we impose upon nature (a "constructionist," "relativist," and more recently a "deconstructionist" school of thought).   Bohan (1990) has recently described a pedagogical strategy for teaching about the history of psyc' logy which is based on "Social Constructionism." Phillip's (1983) discussion of "Postpositivist Educational Thought," is one of the most thorough explanations of the many possible views which have surfaced to counter the original "logical positivist" view of the Wiener Kreis (Vienna Circle, circa 1920).

Ernst Cassirer (1955) has proposed that discourse creates (his term is "enacts") the world. Knowledge is not 'about' the world, but rather 'constitutive' of the world. Cassirer states:

> Every authentic function of the human spirit has this
> decisive characteristic in common with cognition: it does
> not merely copy but rather embodies an original, formative
> power. It does not express passively the mere fact that
> something is present but contains an independent energy of
> the human spirit through which the simple presence of the
> phenomenon assumes a definite 'meaning,' a particular
> ideational content. (p. 78)

He continues, presenting a strong link between art, myth,

language and cognition when he suggests that they are not

"...different modes in which an independent reality manifests

itself to the human spirit but roads by which the spirit proceeds

toward its objectivization, ie., its self-revelation" (p. 78).

More recently Eisner (1981) has expressed similar ideas when he

attempts to differentiate the scientific from the artistic

approach to qualitative research. Goodman (1983), strongly

influenced by Cassirer, describes himself as a "constructionist"

and "relativist" and expresses quite similar thinking. There is

a strong similarity between what Cassirer and Goodman are

describing and Perry's (1970) fifth stage of cognitive

development, the "relativism or contextual thinking stage."

Developmental Theories. Certainly the many developmental

theories presented in texts (e.g., Baldwin, 1980; Lerner, 1986;

Miller, 1983; Salkind, 1985; Thomas, 1985) which are used in

courses comparing theories of human development, might be an

example of "plural realities." An example of common usage of these

texts is contained in Schadler's (1985) "If It's Tuesday, It Must

Be Freud" review of Thomas' (1985) text. During a typical 15-week

semester a dozen or so theories might be encountered in courses

such as this. Each class period may be devoted to a different
theoretical view of human development ranging from Ainsworth's to
Vygotsky's interpretations of reality. With so many differing
views - plural realities - how does one integrate and synthesize
all of this knowledge?

Conceptual Conflict. A related issue is how does one
contend with conceptual conflict and arousal (Berlyne, 1957) and
use it to ones advantage. Johnson (1979) has stated that one of
the keys to successful teaching is the promotion of controversy
(p. 359). Flavel (1963) has stated:

> "In the course of his contacts (and especially, his
> conflicts and arguments) with other children, the child
> increasingly finds himself forced to reexamine his own
> precepts and concepts in the light of those others, and by
> so aoing, gradually rids himself of cognitive egocentrism
> (p. 279).

This may be true of adults as well. John Stuart Mill has stated
that "Since the general or prevailing opinion on any subject is
rarely or never the whole truth, it is only by the collision of
adverse opinion that remainder of the truth has any chance of
being supplied" (in Johnson, 1979, p. 361). Johnson et al.
(1986) have continued to emphasize the positive and creative role
of cognitive conflict as motivation for learning (Johnson &
Johnson, 1987).

Writing. Berlin (1987), in his book Rhetoric and Reality,
describes three theories of rhetoric including the 1) objective,
2) subjective, and 3) transactional theories. The most recent and
contemporary "transactional" theory of rhetoric is quite similar

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to the previous discussion of conceptual conflict. Transactional

theory is also concerned with the postmodern issue of "plural

realities." Berlin states:

> Transactional rhetoric is based on an epistemology that
> sees truth as arising out of the interaction of the
> elements of the rhetorical situation: an interaction of
> subject and object or of subject and audience or even all
> the elements - subject, object, audience, and language -
> operating simultaneously. (p. 15)

One solution to the problems of conceptual conflict and the

integration of divergent viewpoints as found in the rich reserves

of available psychological theories is through writing.   The

present author has recently been strongly influenced by several

researchers interested in the writing process (Elbow,

1986 & 1987; Jones, 1987; Fulwiler, 1986; Fulwiler & Young, 1982;

Fulwiler & Jones, 1982). During a recent conference (the Seventh

Annual Lilly Conference on College Teaching) Peter Elbow and Robert

Jones made a forceful and convincing case for the integration of

the writing process across various curriculae. Effective writing

as a means of communication is an important skill which should be

one of the successful outcomes of a college education. Teaching

this skill effectively, it is argued, can only be accomplished

when it is encouraged in other disciplines outside of the

Departments of English who have traditionally been assigned this

responsibility. The discipline of psychology is aware of the need

to incorporate writing into its teaching practices (see the recent

special issue of Teaching of Psychology, 17, 1, 1990, whose entire

contents, nearly 16 articles, is devoted to the uses of writing in

the psychology curriculum).   In other words, even educational
psychology classes may provide a context and an opportunity to
effectively learn to write.

Elbow (1986) has also expressed a particularly post-modern
view which is strongly related to Cassirer's (1955), Bruner's
(Bruner & Feldman, 1986) and Goodman's (1983) notions of plural
realities and also associated with conceptual conflict:

> "A hunger for coherence; yet a hunger also to be true to the
> natural incoherence of experience. This dilemma has led me
> more often than I realized to work things out in terms of
> contraries: to gravitate toward oppositions and even to
> exaggerate differences - while also tending to notice how
> both sides of the opposition must somehow be right. My
> instinct has thus made me seek ways to avoid the limitations
> of the single point of view. And it has led me to a common
> sense view that surely there cannot be only 'one' right way
> to learn and teach (p. x)."

Summary. As an educational psychologist who has always been
concerned with the applications of psychological theory to
teaching, and, having a concern for teaching psychological
theories within the context of a postmodern time, the present
author has tried to adapt and apply relativistic and
constructionist viewpoints by introducing conceptual conflict
into the teaching of these classes. An additional concern has
been to challenge and foster higher level cognitive processes
(see Perry, 1970 as well as Bloom et al., 1971) by encouraging
critical integration, synthesis, evaluation and analysis of
knowledge. The solution described below has been to use the medium
of writing, not only the traditional term paper or answer to an
essay question, but also the writing of questions.

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Method

Sample. The students who experienced the strategy described below were graduate education majors working on Master's and Specialist's degrees in Teacher Education, Home Economics, Educational Leadership, and Educational and School Psychology. Four classes have used the writing techniques. Thomas' (1985) book was a common and required text for the three "human developmental theories" course. The 3 credit hour class was taught throughout a 15 week semester. Two additional writing projects, each a review of a recent quantitative developmental psychology article taken from professional journals, were required and constituted 60% of the grade for the class. One section during the Spring 1987 semester contained 17 students, another during the Spring 1988 semester contained 6 students, and another during the Spring, 1990 semester contained 9 students. A forth class of 9 students who studied "Classroom Group Processes" was also treated to the dyadic confrontation technique during the Spring, 1990 semester. For comparative purposes, two sections which did not use the dyadic confrontational approach were also examined.

Procedure. The dyadic technique described below focused on nine short essay writing experiences which were assigned throughout the semester. The present technique is most similar to one used by Goldschmid (1971) and Schirmerhorn et al. (1975). It is also similar to the dyadic structured "reciprocal peer tutoring" model used by Fantuzzo et al., (1989). However, while Fantuzzo et al., (1980) used an objective multiple choice format, a more

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subjective written essay approach was used in the present study.
At regularly scheduled times each student had to write a brief
essay question and model answer primarily based on assigned
readings and text material.   Students were instructed that their
questions should be comparative in nature and, as the class went
on, earlier material and chapter content could and should be drawn
upon.   The questions should require some thought and not be trivial
in the sense that one could construct an objective multiple choice
test format with highly convergent answers.   The instructor
contributed a question and answer for each assigned period as well.
In addition to the regularly scheduled textbook chapters, several
primary author reprints were distributed. Students were encouraged
to integrate the content of these additional readings into both
their questions and answers.   Those who did integrate these
materials into their questions and answers were rated higher by the
instructor than those who merely stayed within the confines of the
text.   Both peer and instructor evaluation were also used in the
two Spring, 1990 classes.   Five attributes including 1) General
Impression, 2) Importance, 3) Clarity, 4) Integration, and 5)
Creativity, were rated on a 0 (poor) to 4 (excellent) scale.
Evaluation of the quality of both the questions as well as the
answers was a considerable portion (40%) of the course grade.   The
following outline details the sequential steps of this procedure:

I. To be accomplished outside of class.

    1. **Text Reading.** Entire class reads the exact
    same two pieces of literature:

        A. A chapter of text focusing on a
        specific developmental theory: eg,
        Erik Erikson's Psycho-Social Theory
        of Personality Development).

        B. A primary source "reading" handed
        out by the instructor: eg., an
        article written by Erik Erikson.

    2. **Question Writing.** Each student writes a
    question attempting to integrate or link issues
    which they perceive to be important in both
    reading assignments.

    3. **Answer Writing.** Each student then writes
    a model answer to their own question - a brief
    essay which is not more than one page, single-
    spaced.

    4.   Before coming to class each student
    reproduces a single copy of their question
    (their answer not included).

II. To be accomplished in class.

    5.   **Question Exchange.** Students exchange
          copies of their questions with each
          other.

    6.   **Writing.**   Students   spend
          approximately 25 minutes writing
          answers to each others' questions.

    7.   While students are writing answers
          to   each   others'   questions,   the
          instructor makes copies of all the
          questions for later distribution to
          the entire class.

8. **Reading.** Students read each others'
    answers. The original poser of the
    question reads a peers' answer while
    that peer reads the originator's
    answer. This is not always a
    reciprocal exchange and therefore
    usually involves three people: eg.,
    B writes an answer to **A's** question
    and **C** answers **B's** question, therefore
    B must interact with both **A** and **C**.

9. **Confrontation.** Both students then
    engage in dialogue over convergent
    and divergent ideas which they have
    encountered in each others' essays.

10. **Class Discussion.** A general
    discussion follows the passing out
    of copies of all the questions (see
    #7 above) submitted for that day.

11. **Peer Evaluation.** Students evaluate
    each other's questions and answers
    on the basis of five attributes: 1)
    an overall General Impression, 2)
    Importance, 3) Clarity, 4)
    Integration, and 5) Creativity. A
    5-point scale ranging from 0 (poor)
    to 4 (excellent) is used to rate each
    of the five attributes.

12. **Instructor Evaluation.** The
    instructor then evaluates the
    question and both answers along the
    same dimensions as in #11 above. All
    rating points are summed for a total
    possible score of 120 (4 possible
    points for each of the five
    attributes as rated by the instructor
    and a peer evaluator).

The questions should have been neatly typed on the two forms
(templates) which were provided. See Figure 1 which is an example
of a template showing a student's question and another student's
answer. Figure 2 is an example of a blank template which is
presently being used for instructor/peer evaluations. One

anonymous copy contained only their question and had space available for someone else to answer. The person who answered the question in class identified themselves by signing the bottom of their sheet. The other copy had both the question and the expected answer on the bottom half along with identification information as to who contributed the question. Greater importance was assigned to the prepared answer than the one which they wrote in class.

Put Figure 1 & 2 about here

Thus, a prepared question and answer was already committed to writing when students came to class. In class they were given approximately 30 minutes to write their answers. Each question had to be germane to the regularly scheduled topic in the syllabus/calendar of events. However, because such a wide breadth of information was available for selection, the specific content of a question was not predictable. Thus a certain amount of random indeterminance was the general rule for these activities. As Hare-Mustin & Mareck (1988) state: "Postmodernism accepts randomness, incoherence, indeterminanacy, and paradox, which postivist paradigms are designed to exclude. Postmodernism creates distance from the seemingly fixed language of established meanings and fosters skepticism about the fixed nature of reality (p. 462)". (Further discussion of this randomness is contained in Sherman, 1987). What one student felt was important enough to integrate into their question, another student might have completely ignored.

Students had to come to class prepared. This was an "open book" experience and all notes and related readings were available as resources in answering another's question.

After completion of the inclass writing, each student had to confront the student who wrote the question. Since the answer was already previously prepared outside of class, a certain amount of commitment had already been made. Conceptual conflict or convergence was thus achieved in these dyadic meetings where each student usually came in contact with at least one and usually two other students. This was usually a time of lively discussion. After the dyadic meetings had taken place, the instructor distributed copies of all questions so that everyone could see what others believed was an important question to ask of the materials. The students than had to rate each others questions and answers. The instructor rated all questions and answers as well as contributed written comments outside of class and returned the materials to the students at their next regularly scheduled meeting. In a small class of 6 to 17 students, these activities involved approximately 60% of class time and were believed to be highly informative, active and productive experiences.

Some examples of the types of questions which were written are as follows:

1. Goodman (in Bruner & Feldman, 1986) says all worlds
have been constructed out of other worlds that we have
taken for granted and that world-making involves the
transformation of worlds and world versions already made.
Goodman also talks of a reference system in which meaning
of the symbol is given by the system of meanings in which
it exists. How would Heinz Werner and Kurt Lewin
(Thomas, 1985, chapter 7) view 'world building' and
'reference systems?'

2. Explain Lewin's principle of 'differentiation'
(Thomas, 1985, chapter 7, p. 152) in terms of Vygotsky's
(Thomas, 1985, chapter 11) theory of development.

3. Describe why developmental psychologists should
examine their social history (Bronfenbrenner, et al,
1986), and put this into the context of Thomas' (1985)
discussion of the social history of the 'nature vs
nurture' issue discussed in chapter 2.

4. Suppose that Nelson Goodman, Jean Piaget and Lev
Vygotsky were all present at a debate on
'constructivism.' Would they be allies or opponents?
Why?

5. How are Piaget's formal operational stage (Thomas,
1985, Chapter 10) and Vygotsky's third stage of thought
development (Thomas, 1985, Chapter 11; Toulmin, 1978)
similar?

6. Using our text (Thomas, 1985) and the Leak &
Christopher (1982) article, discuss how the
sociobiological 'Epigenetic Principle' parallels Freud
and Erikson's psychoanalytic theories (Thomas, 1985,
chapter 8 & 9).

It is important to note that each of these questions

references at least two sources, either the text or an article

distributed by the instructor. Movies and video-taped programs

were additional sources which they could draw upon. Most answers

converged on common language and concepts obtained from the

assignments. However, the manner in which the students used this

information to answer their questions was quite diverse. Also,

even though all had read the same assignments, the questions which
they felt important to ask were also quite diverse.   This created
a rich and quite complex dialogue in our class discussions.

Discussion

The significance of the dyad as the simplest and most
important sociological formation described as a "group" has been
extensively discussed by Simmel (1965) and others.   Pedagogical
applications of the empirical findings from group dynamics
studies of dyads is sparse. However, teaching through the use of
dyadic peer pairings is presently gaining a renewed interest from
instructors and social psychological researchers alike (Goldschmid,
1971; Schirmerhorn et al., 1975; Larson & Dansereau, 1986;
Dansereau 1987; van Oudenhoven et al., 1987a & 1987b; Fantuzzo et
al., 1989).   Frederick (1981 & 1986) has described the usefulness
of dyads in stimulating classroom discussions in college history
classes.   The dyad is one of the most central structures of the
Johnsons'   (1987)   latest   pedagogical   strategies,   "Creative
Conflict". For a more thorough discussion of cooperative classroom
writing in "collaborative" and "Peer Response" groups, Dipardo &
Freedman's (1988) recent article as well as Gere (1987) provide a
great wealth of information and clarification.   Recently, at the
Fourth Convention of the International Association for the Study
of Cooperation in Education, Hertz-Lazarowitz et al., (1988) and
Telles (1988) presented newly innovated dyadic techniques for
teaching. While the present technique is not the same as these
other approaches, the focus on dyads in the teaching/learning

process is an important point of convergence. As Hertz-
Lazarowitz et al. (1988) have pointed out, dyadic teaching has had
a long and distinguished history of successful use among talmudic
scholars for nearly 2000 years. Hertz-Lazarowitz's et al. (1988)
technique is based on a hierarchial arrangement of tutor/tutee
pairings in which both members of the dyad reverse roles at one
time or another while imparting knowledge to each other. Telles
(1988) technique is similar to Aronson's (1978) "jigsaw"
technique with the addition of concentrated dyadic interactions
among "expert group" members. These examples are based on a
rationale of "cognitive rehearsal" and assume convergence of
thought and an external objectivity which is to be learned, where
as the present technique is based on postmodern thought including
the concepts associated with transactional theories of rhetoric,
cognitive elaboration, paradox, divergence and plural realities.
The dyadic confrontation technique presented in this manuscript is
a continuation of the author's earlier concerns for promoting
learning through small group discussions (Sherman, 1976 & 1977).

The classes receiving this type of strategy generally
felt that it was highly beneficial to their learning of both the
content of the class and about each other's perceptions of that
content. While a six-item, objectively administered and
university sanctioned "course/professor/evaluation" instrument
was administered to all sections, the individual items were not
as informative as the anecdotal comments which were volunteered.
Nevertheless, five of the six items were significantly ($p < .05$)

more positively rated by students who had experienced the dyad technique than the ratings obtained in sections which had not experienced it (See Table 1 and Figures 3 to 8; also, Sherman, 1988). Most of the written comments contributed by students reflected a highly positive acceptance of the writing experience. Above all, the experience was highly motivating, stimulating much more intense study of the text and related reading materials. These findings are quite similar to those reported by McKeachie (1990, pp., 191-194) in his recent review of research on college teaching focused on "student-centered discussion." Confronting their peers in the class motivated students to study and think about the materials in more depth. It has been suggested that this technique also promoted "critical reading" as much as writing skills. Students believed that it helped them understand the theories better, and expanded their perception of the importance, application, and interpretation of these theories. This was especially so when interpretating theories which appeared to result in the greatest differential perceptions (e.g., where cognitive conflict was most apparent). One of the most common remarks overheard in class confrontation/dialogue was "I never 'thought' of that!" or "While I thought this was the 'right' answer, I can certainly see what you were focusing on."

Put Table 1 and Figure 3-8 here

Thus, in general, it is believed that this strategy is

favorably accepted by students, and, they perceived that it

was a valuable experience in learning about the theories. From

the instructor's perspective, the students progressively became

more sophisticated as the semester continued, with the best, most

integrated questions and answers appearing at the end of the

class. The conceptual ideas upon which the questions and answers

were based covered a broad sampling of topics associated with the

various theories, almost as comprehensive as what might be

traditionally included in objective multiple-choice tests. Many

students expressed the view that they felt much more critically and

analytically competent at the end of the class than they did at the

beginning. Thus, it is felt that not only did the students

experience a postmodern teaching technique, but may have also

gained an appreciation and developed toward a more relativistic

stage of conceptual thinking (Perry, 1970).

Two additional comments appear relevant. Many contemporary

developmental theorists are emphasizing the importance of

"postmodern" thinking (e.g., Brunfenbrenner et al., 1986). The

above strategy is believed to reflect this sentiment. The second

point concerns the contemporary movement to encourage more

writing experience across the curriculum, having its major

support among teachers of English (Michalak, 1989). Three of this

author's colleagues in the English Department who have been highly

active in promoting writing activities across curriculae have read

this manuscript. One important comment which all three

volunteered was the importance of disseminating reports such

as this to disciplines other than audiences whose concern is

already "writing": eg., the National Council of Teachers of

English. In other words, "don't preach to the choir." While the

strategies described in this report obviously take up more

instructor time in reading and evaluating essays, it is believed

that the gains in student writing abilities and critical thinking

(rhetoric), and the motivating stimulation of the class

discussions are worth the efforts. The recent special issue of

Teaching of Psychology (Nodine, 1990) which is devoted entirely

to "Psychologists Teach Writing," has several articles expressing

similar sentiments. However, it should be noted that virtually

all of the articles contained in this issue focus on individual

student writing projects, rather than cooperative or collaborative

pedagogical strategies. The only article weakly linking a peer-

tutor cooperative strategy was Levine's (1990). While some of the

authors acknowledge the dialogue which traditionally takes place

between instructor and student, none of the articles recognize the

peer interactive models available in cooperative learning. The

dyadic writing and confrontation process also appears to be

increasing personal risk-taking similar to what Frank Farley (1988)

has positively described as a "Type T" personality. Lastly, while

the rich variety of developmental psychology theories associated

with the field of educational psychology is eminently suited to

this technique, it is believed that many other disciplines which

likewise abound in diverse theory could benefit from this approach.

References

Aronson, E. (1978). The jigsaw classroom. Beverly Hills, CA:

Sage Publications.

Baldwin, A. E. (1980). Theories of child development. New York,

NY: Wiley & Sons.

Berlin, J. A. (1987). Rhetoric and Reality: Writing Instruction in

American Colleges, 1900-1985. Carbondale, IL: Southern

Illinois press.

Berlyne, D. (1957). Uncertainty and conflict: A point of contact

between information-theory and behavior-theory concepts.

Psychological Review, 64, 329-339.

Bloom, B., Hastings, J. & Madaus, G. (Eds.) (1971). Handbook on

formative and summative evaluation of student learning. New

York, NY: McGraw Hill.

Bohan, J. S. (1990). Social constructionism and contextual

history: An expanded approach to the history of psychology.

Teaching of Psychology, 17, 2, 82-89.

Bruner, J., & Feldman, C. (1986). Nelson Goodman's worlds. In

J. Bruner, Actual Minds, Possible Worlds. Cambridge, MA:

Harvard University Press, 93-105.

Bronfenbrenner, U., Kessel, F., Kessen, W., & White, S. (1986).

Toward a critical social history of developmental

psychology: A propaedeutic discussion. American

Psychologist, 41, 11, 1218-1230.

Burnham, J. (1971). The structure of art. New York, NY: George

　　　Braziller.

Cassirer, E. (1955). The philosophy of symbolic form. New

　　　Haven, CN: Yale University Press.

Dansereau, D. F. (1987). Transfer from cooperative to individual

　　　studying. Journal of Reading, April, 30, 614-618.

DiPardo, A. & Freedman, S. W. (1988). Peer response groups in

　　　the writing classroom: Theoretic foundations and new

　　　directions. Review of Educational Research, 58, 2, 119-149.

Eisner, E. (1981). On the differences between scientific and

　　　artistic approaches to qualitative research. Educational

　　　Researcher, 10, 4, 5-9.

Elbow, P. (1987). Using writing to help teach subject matter.

　　　Keynote Address to the Seventh Annual Lilly Conference on

　　　College Teaching. Oxford, OH: Miami University, Alumni

　　　Teaching Scholars Program, November 13-15, 1987.

Elbow, P. (1986). Embracing Contraries. New York: NY: Oxford

　　　University Press.

Fantuzzo, J. W., Riggio, R. E., Connelly, S., & Dimeff, L. A.

　　　(1989). Effects of reciprocal peer tutoring on academic

　　　achievement and psychological adjustment: A component

　　　analysis. Journal of Educational Psychology, 81, 2, 173-

　　　177.

Farley, F. (1988). The opening of the American mind: Reflections

    on the future of educational psychology. Newsletter for

    Educational psychologists. Division 15 of the American

    Psychological Association, Vol. 12, No. 1, October, 1988.

Frederick, P. (1981). The dreaded discussion: ten ways to start.

    Improving college and University Teaching, 29, 3, 109-114.

Frederick, P. J. (1986). The lively lecture - 8 variations.

    College Teaching, 34, 2, 43-50.

Fulwiler, T. (1986). The argument for writing across the

    curriculum. In A. Young & T. Fulwiler (Eds), Writing

    across the disciplines: Research into practice (pp. 21-32).

    Upper Montclair, NJ: Boynton/Cook.

Fulwiler, T., & Young, A. (1982). Language connections. Urbana,

    IL: National Council of Teachers of English.

Fulwiler, T., & Jones, R. (1982). Assigning and evaluating

    transactional writing. In T. Fulwiler and A. Young (Eds.),

    Language connections. Urbana, IL: National Council of

    Teachers of English, 45-56.

Feyerabend, P. (1975). Against method. London: Humanities

    Press.

Gardner, H. (1985). The minds new science: A history of the

    cognitive revolution. New York, NY: Basic Books.

Gere, A. R. (1987). Writing groups: History, theory and

    implications. Carbondale: Southern Illinois University

    Press.

Goldschmid, M. L. (1971). The learning cell: An instructional

   innovation. Learning and Development, 2, 1-6.

Goodman, N. (1983). On minds and other matters. Cambridge, MA:

   Harvard University Press.

Hare-Mustin, R. T., & Marecek, J. (1988). The meaning of

   difference: Gender theory, postmodernism, and psychology.

   American Psychologist, 43, 6, 455-464.

Hertz-lazarowitz, R., Fuchs, I., & Chamizer, N. (1988). The

   havruta (an Israeli approach to dyadic cooperative

   learning). Paper presentation to the Fourth Convention of

   the International Association for the Study of Cooperation

   in Education, Kibbutz Shefayim, Israel, July 5-8, 1988.

Johnson, D. W. (1979). Educational Psychology. Englewood

   Cliffs: NJ: Prentice Hall.

Johnson, D. W., & Johnson, R. T. (1987). Creative conflict.

   Edina, MN: Interaction Book Company.

Johnson, D. W., Johnson, R. T., & Smith, K. A. (1986). Academic

   conflict among students: Controversy and learning. In R. S.

   Feldman (Ed.), The social psychology of education.

   Cambridge: Cambridge University Press, p. 199-231.

Jones, R. W. (1987). Integrating the writing process into

   engineering courses: Confessions of a writing-as-learning

   advocate. Paper presentation to the Seventh Annual Lilly

   Conference on College Teaching. Oxford, OH: Miami

   University, Alumni Teaching Scholars Program, November 13-

15, 1987.

Larson, C. O., & Dansereau, D. F. (1986). Cooperative learning

in dyads. *Journal of Reading*, 29, 6, 415-20.

Lerner, R. M. (1986). *Concepts and Theories of Human*

Development. New York: NY, Random House.

Levine, J. R. (1990). Using a peer tutor to improve writing in a

psychology class: One instructor's experience.

Teaching of Psychology, 17, 1, 57-58.

McKeachie, W. J. (1990). Research on college teaching: The

historical background. *Journal of Educational Psychology*,

82(2), 189-200.

Michalak, S. J. (1989). Writing more, learning less? *College*

Teaching, 37, 2, 43-45.

Miller, P. H. (1983). *Theories of Developmental Psychology.* San

Francisco, CA: W. W. Freeman & Company.

Nodine, B. F. (guest editor). (1990). Special issue: Psychologists

teach writing. *Teaching of Psychology*, 17, 1, pp. 1-61.

Perry, R. P. (ed.). (1990). Special section: Instruction in

higher education. *Journal of Educational Ppsychology, 80*

(2), 183-274.

Perry. W. G. (1970). *Forms of intellectual and ethical*

development in the college years. New York, NY: Holt,

Rinehart and Winston.

Phillips, D. C. (1983). After the wake: Postpositivistic

educational thought. *Educational Researcher,* 12, 5, 4-12.

Schadler, M. (1985). If it's Tuesday, it must be Freud.

Contemporary Psychology, 30, 12.

Schirmerhorn, S., Goldschmid, M. L., & Shore, B. S. (1975).

Learning basic principles of probability in student dyads:

A cross-age comparison. Journal of Educational Psychology,

67, 551-557.

Sherman, L. W. (1976). Formative evaluation, mastery grading,

and peer directed small group discussions in an introductory

educational psychology class. In J. B. Maas & D. A. Kleiber

(Eds.), Directory of Teaching Innovations in Psychology.

Washington, D.C.: American Psychological Association,

445-446.

Sherman, L. W. (1977). Public relations in a large lecture

class: Computer-managed personal letters from instructor to

student. Newsletter for Division 2 (The Teaching of

Psychology), American Psychological Association, Volume 1,

Number 2, p. 4, also, ERIC DOCUMENT ED 247-698

Sherman, L. W. (1986). Cooperative vs. competitive educational

psychology classrooms: A comparative study. Teaching and

Teacher Education, 2, 4, 283-295.

Sherman, L. W. (1987). As the gourd vine runneth. Experimental

Musical Instruments, Vol. II, No. 6, 15-17.

Sherman, L. W. (1988). _A pedagogical strategy for teaching human_
    development: Dyadic essay confrontations through cooperative
    writing and discussion. Paper presentation to the 8th Annual
    Lilly Conference on College Teaching, Oxford, OH, November,
    1988.   ERIC DOCUMENT ED 299-873.

Telles, B. J. (1988), _Partner jigsaw._ Paper presentation to the
    Fourth Convention of the International Association for the
    Study of Cooperation in Education, Kibbutz Shefayim, Israel,
    July 5-8, 1988.

Thomas, R. M. (1985). _Comparing theories of child development._
    Belmont, CA: Wadsworth.

Simmel, G. (1965). The significance of numbers for social life.
    In A. P. Hare, E. F. Borgatta, & R. F. Bales (Eds.), _Small_
    Groups: Studies in social interaction. New York: NY: Alfred
    A. Knopf, 9-15.

van Oudenhoven, J. P., van Berkum, G., & Swen-Koopmans, T.
    (1987a). Effect of cooperation and shared feedback on
    spelling achievement. _Journal of Educational Psychology,_
    _79,_ 1, 92-94.

van Oudenhoven, J. P., Wiersema, B., & van Yperen, N. (1987b).
    Effects of cooperation and feedback by fellow-pupils on
    spelling achievement. _European Journal of Psychology of_
    Education, II, 1, 83-91.

Table 1.

Summary of Graduate Course Evaluations.

Course (year)	Evaluation Items: "How would you rate the...":[a]						
	1	2	3	4	5	6	
Enrollment	Overall Rating	Testing & Eval.	Organ- ization	Interest	Manner	Attitude	means
EDP 621 (SP 1990)	3.22	3.77	3.33	3.89	3.22	4.00	3.57
(n=9) SD's	.66	.44	.50	.33	.44	.00	
EDP 635 (SP 1990)	3.44	3.55	3.44	3.55	3.44	3.66	3.51
(n=9) SD's	.73	.73	.53	.73	.53	.50	
EDP 635 (SP 1988)	3.50	3.33	3.50	3.67	3.17	3.66	3.47
(n=6) SD's	.55	.52	.55	.52	.75	.52	
EDP 635 (SP 1987)	3.12	3.24	2.65	3.71	2.88	3.41	3.17
(n=17) SD's	.60	.90	.99	.47	1.05	.71	
-Sections not using Dyadic Essay Confrontations-							
EDP 635 (SP 1986)	2.67	3.25	2.50	3.25	2.42	3.42	2.91
(n=12) SD's	1.07	.86	1.00	.75	1.08	.90	
EDP 633 (FL 1982)	3.00	3.00	2.86	3.14	2.57	3.00	2.92
(n=7) SD's	.82	.82	.90	.69	.53	.82	

[a]Each of the 6 items were rated on a 0 (poor) to 4 (excellent) Likert-like scale.Figure 2.

Figure 1.

An Example of the Question/Answer Template, With an Example of
One Student's Answer to Another's Question.

_____   _____

FORM (I OR II):   ___2____

QUESTION NUMBER (1 THRU 8):_____5_____   GROUP (A OR B): __B__
Q SCORE:_____

Assume that teachers in elementary schools (grades 1 through 4) can
influence the development of their students. Looking at the theories
of Freud and Erikson, what role should these teachers play in
facilitating positive development and encouraging healthy personality
growth in their children.

----------------YOUR ANSWER (LEAVE BLANK ON FORM II):-------------
A SCORE:_____

      In order to positively influence the outcomes of the "industry vs.
inferiority" crisis teachers can provide opportunities for play,
provide appropriate tasks and furnish guidance in accomplishing goals
as determined by the child and the teacher. It is also necessary for
the teacher to view as worthy, ideas and skills the child may already
have and express them as such. This is an important time in the
child's developing sense of ego and "personal power" (Heider) as well.
Adults need to have an attitude of approval and encouragement.
Teachers need to examine their own attitudes toward success and
failure. With pressure from administrators and parents to provide
proof of children's accomplishments, teachers may be forced to insist
upon certain tasks being completed in a certain manner. For children
who do not necessarily fit into the group socially or academically,
stress and/or failure may result, and industry be defeated. A teacher
should individualize as much as possible and soundly defend the
child's right to individual consideration. Since the peer group,
usually homogeneous with regard to gender, is becoming increasingly
more important, developing small group activities where children can
plan, organize and produce would instill pride (ego development) and a
sense of belonging, especially within same-gender groups. Whatever
methods are used, someone once said "children don't fail, teachers
do". It is every teacher's responsibility to find a method that will
insure success with a particular child, use it and defend it. The
classroom environment should be "child centered" providing
opportunities for child initiated and child directed activities.
Opportunities for the successful accomplishment of meaningful academic
skills should be provided as well as real life activities to improve
competencies in self-care and everyday life.

NAME:_____Student's Name_____   (Q+A) SCORE:_____

_____

Figure 2.

New Template for Writing and Rating Questions.

_____

FORM (I OR II): _____

YOUR QUESTION

QUESTION NUMBER: _____   GROUP (A OR B):_____

   (A question is composed and written in this space.)


```
SCORING:          I        S
G-IMPRESSION = (    ) / (    ) {Instructor (I) and Student (s) rating
IMPORTANCE   = (    ) / (    )
CLARITY      = (    ) / (    )
INTEGRATION  = (    ) / (    )
CREATIVITY   = (    ) / (    )

TOTALS:        (    ) + (    ) = Q-SCORE: _____
```

0) poor 1) below average 2) average 3)above average 4) excellent
==

YOUR ANSWER (leave blank on FORM II):
CONTINUE ON BACK SIDE IF ADDITIONAL SPACE IS NEEDED

   (The answer is composed and written in this space.)


```
SCORING:          I        S
G-IMPRESSION = (    ) / (    ) {Instructor (I) & Student (S) rating
IMPORTANCE   = (    ) / (    )
CLARITY      = (    ) / (    )
SYNTHESIS    = (    ) / (    )
CREATIVITY   = (    ) / (    )

TOTALS:        (    ) + (    ) = A-SCORE: _____
```

YOUR NAME:_____, TOTAL SCORE: ____
     (preparer/rater)

_____

(Figure 2 continued)

(Continuation of an answer: reverse side of template.)

==

RECONCILIATIONS AND AFTER THOUGHTS

TO THE QUESTION:

TO THE ANSWER:

Figures 3 to 8 here

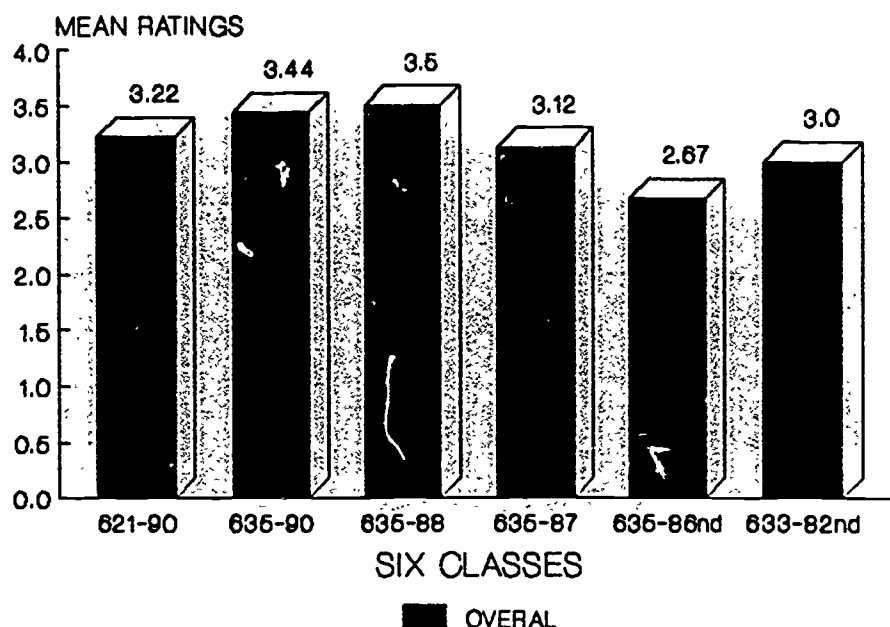# OVERALL GENERAL ITEM X 6 CLASSES
MEAN RATINGS

MEAN RATINGS

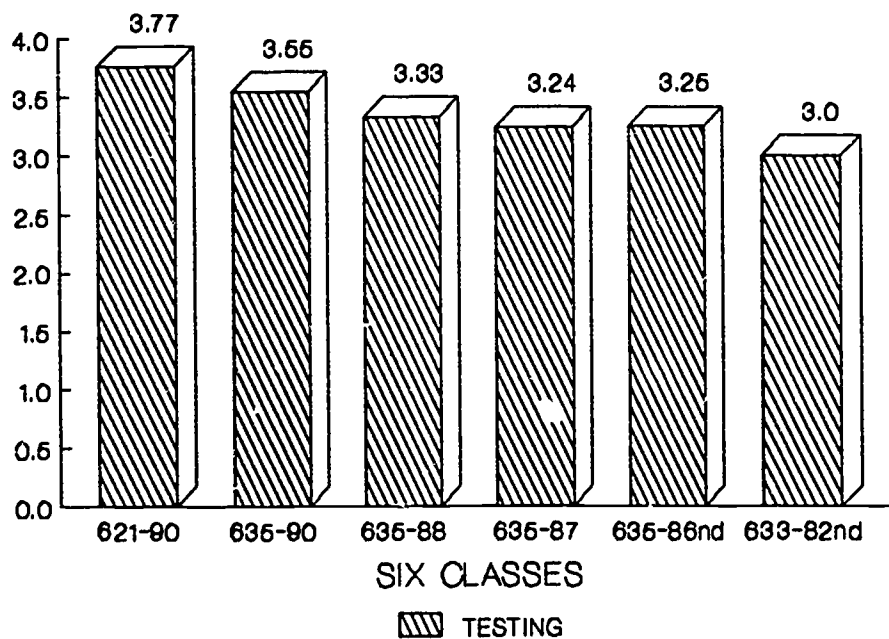FIGURE 3: RATINGS, 0=POOR TO 4=EXCELLENT

TESTING AND EVALUATION X 6 CLASSES
MEAN RATINGS

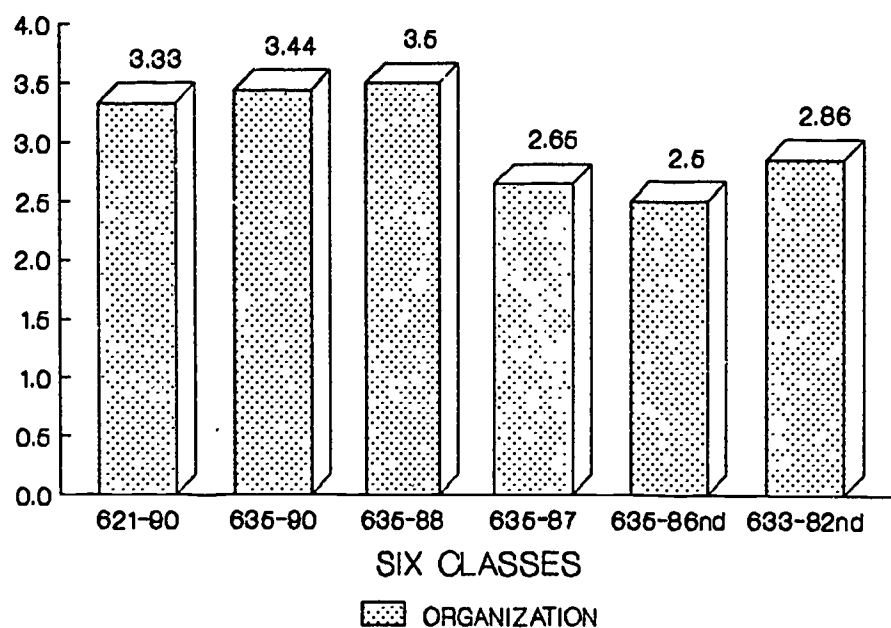FIGURE 4: RATINGS, 0=POOR TO 4=EXCELLENT

ORGANIZATION ITEM X 6 CLASSES
MEAN RATINGS

SIX CLASSES

ORGANIZATION

FIGURE 5: RATINGS, 0=POOR TO 4=EXCELLENT

INTEREST ITEM X 6 CLASSES
MEAN RATINGS

SIX CLASSES

INTEREST

FIGURE 6: RATINGS, 0=POOR TO 4=EXCELLENT

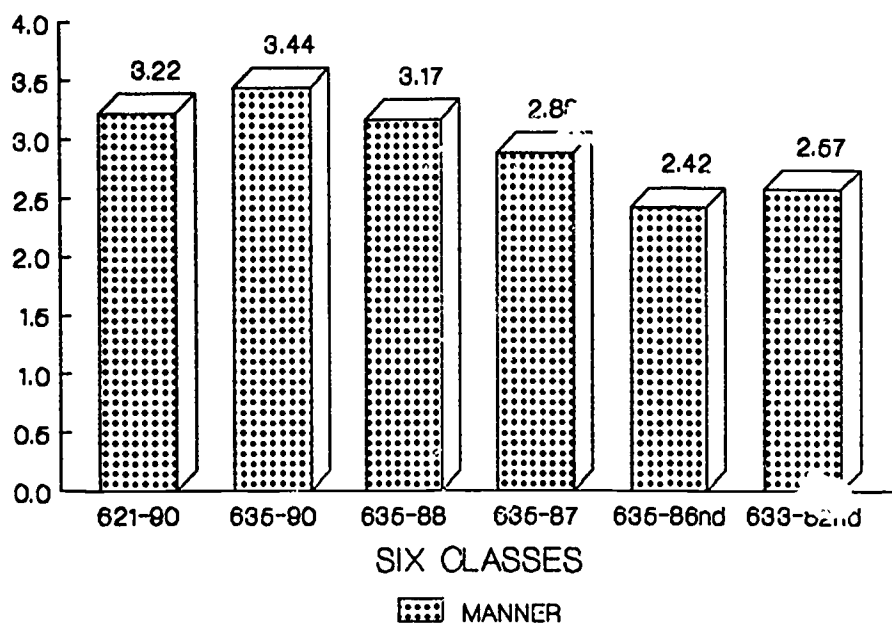# MANNER ITEM X 6 CLASSES
MEAN RATINGS

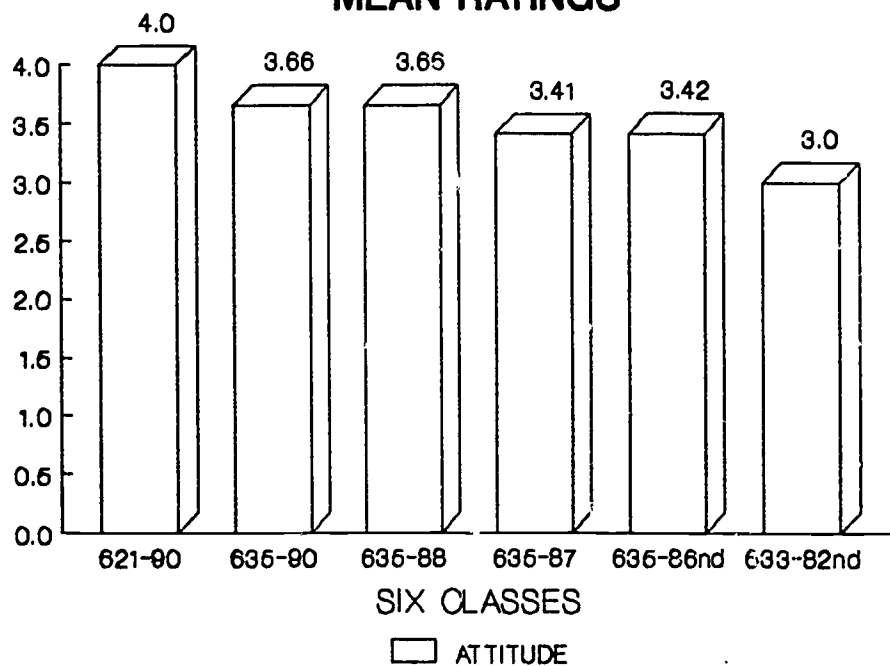FIGURE 7: RATINGS, 0=POOR TO 4=EXCELLENT

ATTITUDE ITEM X 6 CLASSES
MEAN RATINGS

FIGURE 8: RATINGS 0=POOR TO 4=EXCELLENT